

WB Police Wireless Operator Prelims Exam Syllabus

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Physics Syllabus:

i. Mechanics :

1D Motion, 2D Motion, Relative Motion, Uniform Circular Motion, Newton's 3 Laws, Kinetic Energy, Potential Energy, Conservation of Mechanical Energy, Conservation of Total Energy, Impulse, Momentum and Angular Momentum, Simple Harmonic Motion, Pendulums.

ii. Oscillations and Waves :

Periodic motion - period, frequency, displacement as a function of time. Periodic functions. Simple harmonic motion (S.H.M) and its equation; phase; oscillations of a spring-restoring force and force constant; energy in S.H.M.- kinetic and potential energies; simple pendulum-derivation of expression for its time period; free, forced and damped oscillations (qualitative ideas only), resonance.

Wave motion. Longitudinal and transverse waves, speed of wave motion. Displacement relation for a progressive wave. Principle of superposition of waves, reflection of waves, standing waves in strings and organ pipes, fundamental mode and harmonics, Beats, Doppler effect.

iii. Current Electricity:

Electric current, flow of electric charges in a metallic conductor, Ohm's law, electrical resistance, V-I characteristics (linear and non-linear) electrical energy and power, electrical resistivity and conductivity.

iv. Electromagnetic induction:

Kirchoffs' laws and simple applications. Electromagnetic Induction and Alternating Currents.

v. Electromagnetic waves :

Electromagnetic waves and their characteristics (qualitative ideas only). Transverse nature of electromagnetic waves. Electromagnetic spectrum (radio waves, microwaves, infrared visible, ultraviolet, Xrays, gamma rays) including elementary facts about their uses.

Computer Application Syllabus:

- I. Basic knowledge in Computer
- II. Operating Computer using GUI based Operating System
- III. Understanding Word Processing
- IV. Using Spread Sheet
- V. Communication using the Internet
- VI. Presentation using Power Point.

Mathematics Syllabus:

i. Algebra :

Irrational numbers, Arithmetic Progression, Quadratic Equations, Logarithm, Laws of Indices.

ii. Trigonometry:

Associated angles, Compound angles, Multiple Angles.

iii. Co-ordinate Geometry:

Equations of straight lines, equations of Circles.

iv. Calculus :

Limit, Differentiation, Integration.

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